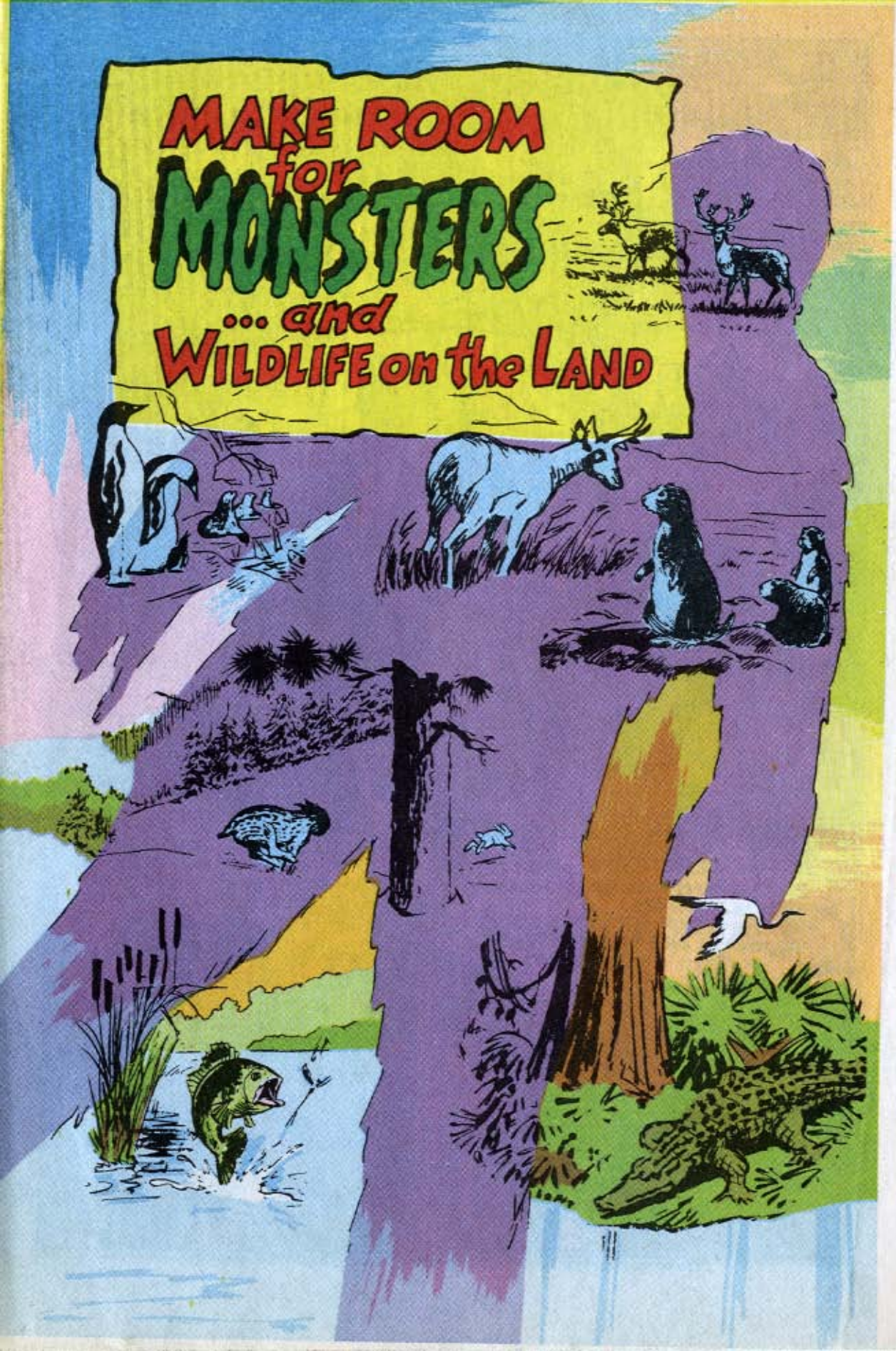
MAKE ROOM
for
MONSTERS
... and
WILDLIFE on the LAND

AS MARTY AND SUSAN WALK HOME FROM SCHOOL...

HEY! WHAT'S GOING ON?

LET'S GO SEE!

...SO BIG FOOT LIKES CEMETERIES.

ACTUALLY, MANY KINDS OF WILDLIFE LIKE CEMETERIES—BIRDS, RABBITS, SQUIRRELS, FOXES. A LOT OF BIG-CITY CEMETERIES ARE PROUD OF THEIR WILDLIFE, TOO...

...SOME EVEN GIVE OUT BOOKLETS SO BIRD-WATCHERS AND OTHERS INTERESTED...

BUT WHAT ABOUT THE MONSTER? I UNDERSTAND IT WAS SEEN HERE LAST NIGHT. IS THAT RIGHT?

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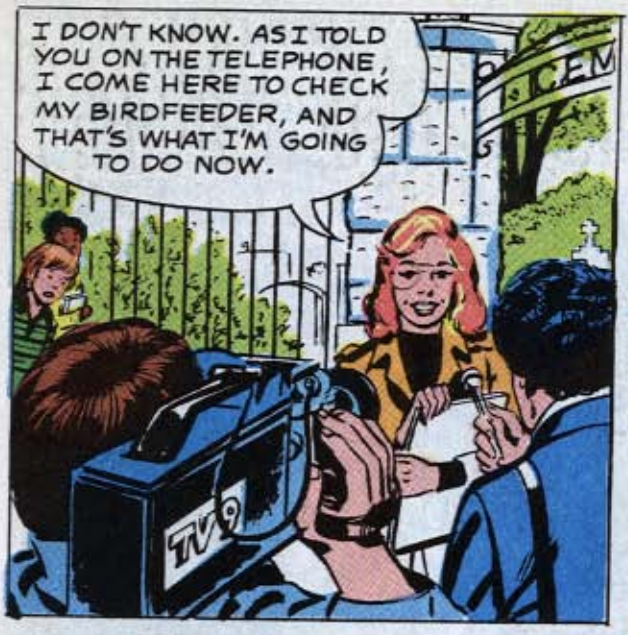

I DON'T KNOW. AS I TOLD YOU ON THE TELEPHONE, I COME HERE TO CHECK MY BIRDFEEDER, AND THAT'S WHAT I'M GOING TO DO NOW.
TV9

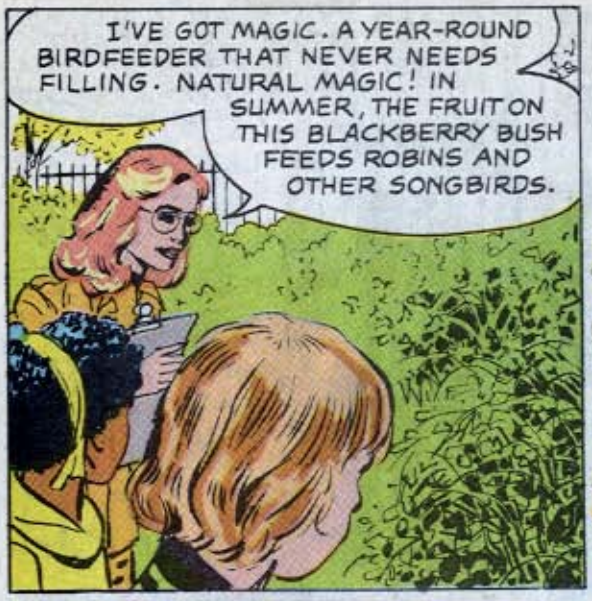
THAT'S THE LATEST FROM DR. ALICE MORGAN ON THE MYSTERIOUS MONSTER IN OUR MIDST.
I'M TED FLACK, TV 9.

I BET SHE MADE UP THAT BIRDFEEDER STORY.
C'MON, LET'S FOLLOW HER!

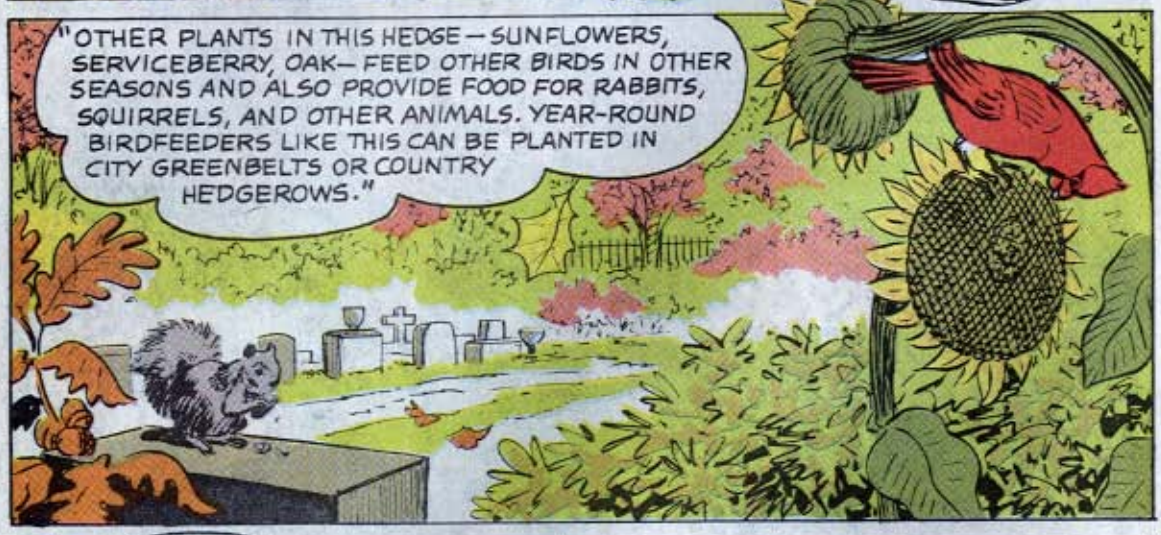
MOMENTS LATER...
I BET THE MONSTER'S IN THERE.
SHE'S FOUND IT!

OH, HELLO!
IS THE MONSTER IN THERE?

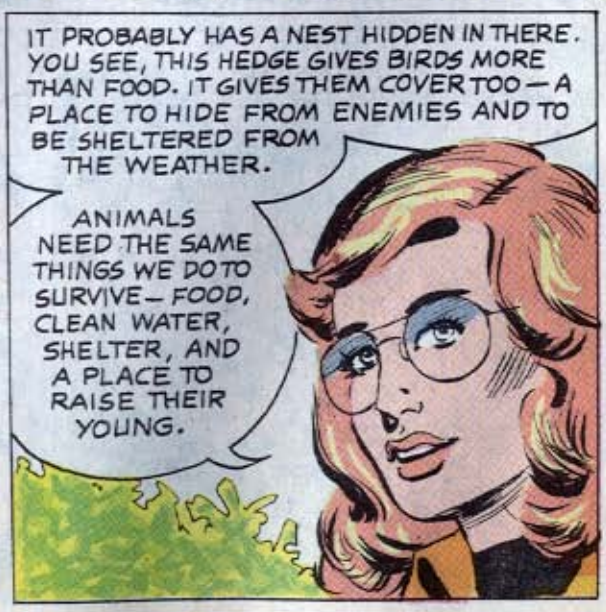
YOU HEARD THE REPORTER, RIGHT?
ACTUALLY I HAVE SOMETHING BETTER THAN A MONSTER IN HERE.


I'VE GOT MAGIC. A YEAR-ROUND BIRDFEEDER THAT NEVER NEEDS FILLING. NATURAL MAGIC! IN SUMMER, THE FRUIT ON THIS BLACKBERRY BUSH FEEDS ROBINS AND OTHER SONGBIRDS.

NEXT WINTER, WHEN THE BLACKBERRIES ARE GONE, THE FRUIT FROM THIS SUMAC WILL FEED CARDINALS AND EVEN LARGER GAMEBIRDS, SUCH AS BOBWHITE QUAIL AND RING-NECKED PHEASANTS, THAT WE SOMETIMES SEE ON THE OUTSKIRTS OF THE CITY.


"OTHER PLANTS IN THIS HEDGE—SUNFLOWERS, SERVICEBERRY, OAK—FEED OTHER BIRDS IN OTHER SEASONS AND ALSO PROVIDE FOOD FOR RABBITS, SQUIRRELS, AND OTHER ANIMALS. YEAR-ROUND BIRDFEEDERS LIKE THIS CAN BE PLANTED IN CITY GREENBELTS OR COUNTRY HEDGEROWS."

A ROBIN!


IT PROBABLY HAS A NEST HIDDEN IN THERE. YOU SEE, THIS HEDGE GIVES BIRDS MORE THAN FOOD. IT GIVES THEM COVER TOO—A PLACE TO HIDE FROM ENEMIES AND TO BE SHELTERED FROM THE WEATHER.
ANIMALS NEED THE SAME THINGS WE DO TO SURVIVE—FOOD, CLEAN WATER, SHELTER, AND A PLACE TO RAISE THEIR YOUNG.

THERE'S A LAKE A COUPLE BLOCKS FROM HERE IN THE PARK. BUT THERE'S NO WATER.
REMEMBER, ANIMALS CAN MOVE AROUND. BESIDES, IT DID RAIN LAST NIGHT AND THAT FILLED A LOT OF BIRD-BATHS.

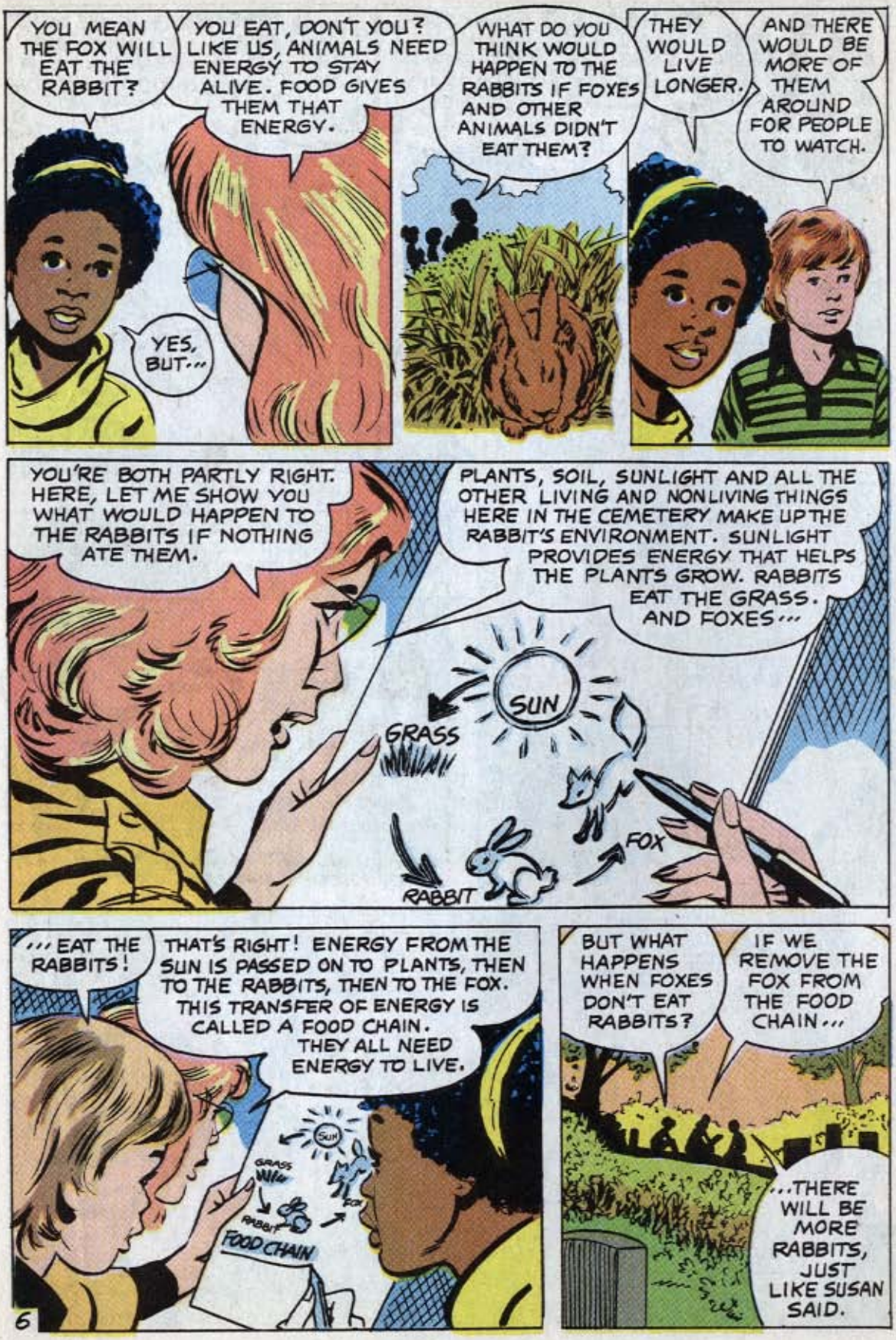
I CAN SEE ONE NOW.
I DO TOO!
ALL IN ALL, THIS HEDGE AND CEMETERY IS A GOOD HOUSE FOR ANIMALS.

SEE HOW THESE GRASSES HAVE GROWN UP UNDER THE HEDGE.
YEAH! IT'S MESSY.
LOOKS AWFUL!

LOOK!

THAT RABBIT WAS USING THE GRASS FOR COVER SO WE COULDN'T SEE HIM. WE MUST HAVE GOTTEN TOO CLOSE.

THEY HIDE FROM ANIMALS THAT MIGHT HARM THEM, LIKE US, OR THE RED FOX I'VE SEEN HERE.
SOME DAY, THOUGH, THE FOX MIGHT CATCH THE RABBIT FOR ITS FOOD.
WHAT?


YOU MEAN THE FOX WILL EAT THE RABBIT?
YOU EAT, DON'T YOU? LIKE US, ANIMALS NEED ENERGY TO STAY ALIVE. FOOD GIVES THEM THAT ENERGY.
YES, BUT...
WHAT DO YOU THINK WOULD HAPPEN TO THE RABBITS IF FOXES AND OTHER ANIMALS DIDN'T EAT THEM?
THEY WOULD LIVE LONGER.
AND THERE WOULD BE MORE OF THEM AROUND FOR PEOPLE TO WATCH.
YOU'RE BOTH PARTLY RIGHT. HERE, LET ME SHOW YOU WHAT WOULD HAPPEN TO THE RABBITS IF NOTHING ATE THEM.
PLANTS, SOIL, SUNLIGHT AND ALL THE OTHER LIVING AND NONLIVING THINGS HERE IN THE CEMETERY MAKE UP THE RABBIT'S ENVIRONMENT. SUNLIGHT PROVIDES ENERGY THAT HELPS THE PLANTS GROW. RABBITS EAT THE GRASS. AND FOXES...
SUN
GRASS
FOX
RABBIT
...EAT THE RABBITS!
THAT'S RIGHT! ENERGY FROM THE SUN IS PASSED ON TO PLANTS, THEN TO THE RABBITS, THEN TO THE FOX. THIS TRANSFER OF ENERGY IS CALLED A FOOD CHAIN. THEY ALL NEED ENERGY TO LIVE.
SUN
GRASS
RABBIT
FOX
FOOD CHAIN
BUT WHAT HAPPENS WHEN FOXES DON'T EAT RABBITS?
IF WE REMOVE THE FOX FROM THE FOOD CHAIN...
...THERE WILL BE MORE RABBITS, JUST LIKE SUSAN SAID.

BUT LOOK, PLANTS ARE DISAPPEARING ... SOME RABBITS ARE STARVING.

AND THE HEALTHY ONES ARE LEAVING.

RIGHT. ONLY SO MANY RABBITS CAN LIVE IN THIS CEMETERY. IF THERE ARE TOO MANY, THEY EAT UP ALL THE FOOD. SOME STARVE. OTHERS GET WEAK AND SICK...

...AND THE HEALTHY ONES MOVE AWAY IF THEY CAN. THE NUMBER OF ANIMALS THAT CAN LIVE IN AN AREA IS KNOWN AS THE CARRYING CAPACITY FOR THAT AREA.

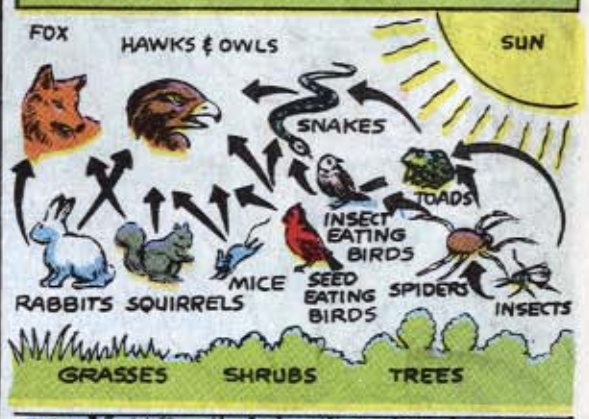
SHALL WE PUT THE FOX BACK?

YES.

THAT PUTS THE FOOD CHAIN BACK IN ORDER AGAIN. REMEMBER, IF PART OF A FOOD CHAIN IS DAMAGED, THE WHOLE CHAIN IS AFFECTED. ALL PARTS OF A FOOD CHAIN DEPEND UPON THE OTHER PARTS.

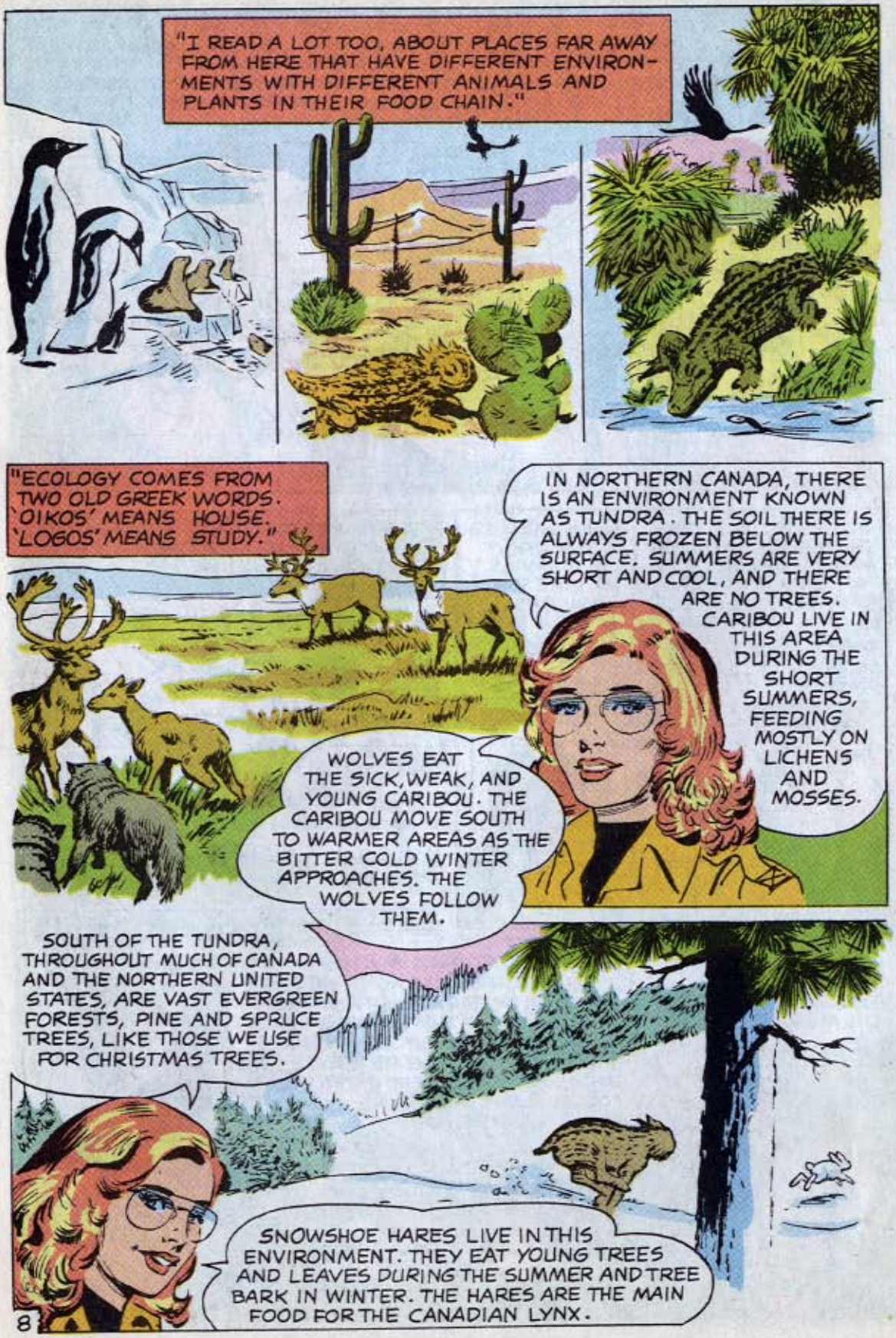
WHAT ABOUT THE OTHER ANIMALS, LIKE THAT SQUIRREL AND THE ROBIN WE SAW BEFORE? WE DIDN'T INCLUDE THEM IN THE FOOD CHAIN, BUT THEY EAT TOO.

"THERE ARE MANY FOOD CHAINS IN THIS CEMETERY, AND EACH ONE MAKES UP PART OF THE FOOD WEB."



HOW DO YOU KNOW SO MUCH ABOUT ENVIRONMENT, DR. MORGAN?

I'M AN ECOLOGIST. MY JOB IS TO FIND OUT HOW LIVING THINGS ARE AFFECTED BY EACH OTHER AND THE OTHER PARTS OF THEIR ENVIRONMENT. I KNOW A LOT ABOUT THE ANIMALS AND PLANTS IN THIS CEMETERY BECAUSE I COME HERE OFTEN TO OBSERVE WHAT'S HAPPENING.


"I READ A LOT TOO, ABOUT PLACES FAR AWAY FROM HERE THAT HAVE DIFFERENT ENVIRONMENTS WITH DIFFERENT ANIMALS AND PLANTS IN THEIR FOOD CHAIN."
"ECOLOGY COMES FROM TWO OLD GREEK WORDS. 'OIKOS' MEANS HOUSE. 'LOGOS' MEANS STUDY."
IN NORTHERN CANADA, THERE IS AN ENVIRONMENT KNOWN AS TUNDRA. THE SOIL THERE IS ALWAYS FROZEN BELOW THE SURFACE. SUMMERS ARE VERY SHORT AND COOL, AND THERE ARE NO TREES. CARIBOU LIVE IN THIS AREA DURING THE SHORT SUMMERS, FEEDING MOSTLY ON LICHENS AND MOSSES.
WOLVES EAT THE SICK, WEAK, AND YOUNG CARIBOU. THE CARIBOU MOVE SOUTH TO WARMER AREAS AS THE BITTER COLD WINTER APPROACHES. THE WOLVES FOLLOW THEM.
SOUTH OF THE TUNDRA, THROUGHOUT MUCH OF CANADA AND THE NORTHERN UNITED STATES, ARE VAST EVERGREEN FORESTS, PINE AND SPRUCE TREES, LIKE THOSE WE USE FOR CHRISTMAS TREES.
SNOWSHOE HARES LIVE IN THIS ENVIRONMENT. THEY EAT YOUNG TREES AND LEAVES DURING THE SUMMER AND TREE BARK IN WINTER. THE HARES ARE THE MAIN FOOD FOR THE CANADIAN LYNX.

"AN ENVIRONMENT KNOWN AS GRASSLAND OR PRAIRIE COVERS A GOOD SHARE OF THE WESTERN UNITED STATES AND CANADA. THERE ARE VERY FEW TREES. GRASS-EATING, BURROWING ANIMALS, LIKE PRAIRIE DOGS AND KANGAROO RATS, LIVE THERE. COYOTES, GOLDEN EAGLES, AND RATTLESNAKES EAT PRAIRIE DOGS AND KANGAROO RATS WHEN THEY CAN CATCH THEM."
THE LAKE MARTY SAID COULD PROVIDE WATER FOR SOME OF THE WILDLIFE IN THE CEMETERY IS A VERY DIFFERENT KIND OF ENVIRONMENT, BUT THERE ARE MANY FOOD CHAINS IN THE LAKE TOO.
YOUNG FISH EAT ALGAE, WHICH ARE SMALL PLANTS THAT FLOAT IN THE WATER. LARGER FISH FEED ON THE SMALLER FISH, AND PEOPLE GO FISHING IN HOPES OF CATCHING THE LARGER FISH.
"A SWAMP IS ANOTHER ENVIRONMENT THAT INCLUDES A LOT OF WATER. MOST OF THE LAND IS UNDER WATER, BUT THE WATER IS VERY SHALLOW. MANY TREES AND BUSHES GROW THERE. INSECTS, SUCH AS BUTTERFLIES, LIVE IN THE SWAMPS AND SIP NECTAR FROM THE FLOWERS OF PLANTS."
SOME INSECTS, LIKE DRAGONFLIES, FEED ON OTHER INSECTS. AND IF A DRAGONFLY GETS TOO CLOSE TO A BULLFROG...
...THE FROG WILL "ZAP" IT WITH ITS TONGUE AND EAT IT.
THAT'S RIGHT. WHAT ANIMALS DO YOU THINK MIGHT EAT THE FROG?
A SNAKE OR A HAWK COULD EAT IT!
OR MAYBE AFTER THE SNAKE EATS THE FROG, THE HAWK WILL EAT THE SNAKE.

YOU'RE BOTH RIGHT. I THINK YOU UNDERSTAND FOOD CHAINS NOW.

IT'S PRETTY COMPLICATED. THERE ARE SO MANY DIFFERENT ENVIRONMENTS, FOOD CHAINS, AND ANIMALS.

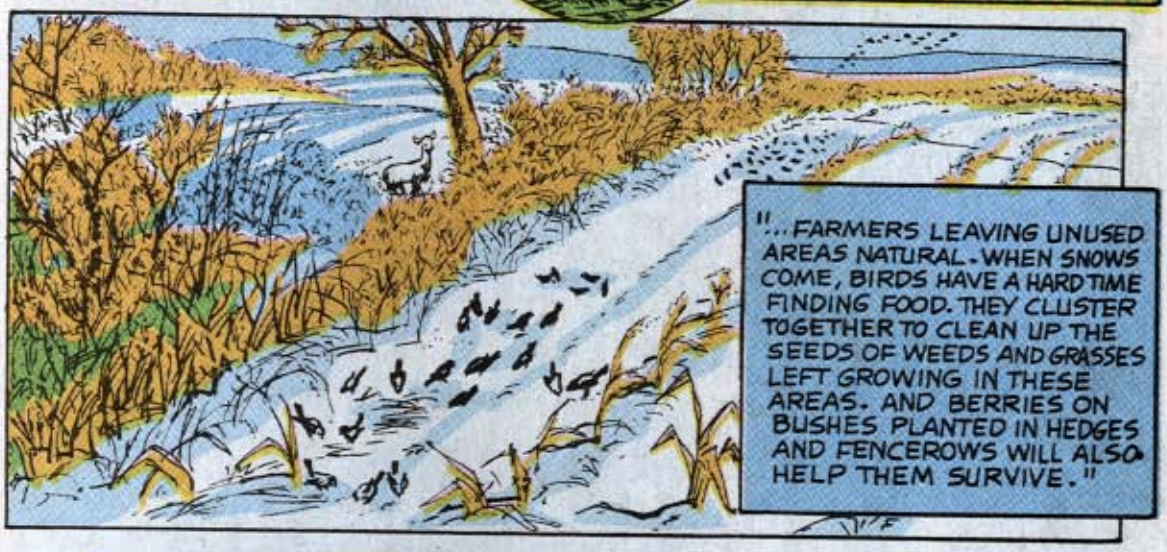
BUT THE NUMBER OF DIFFERENT KINDS OF ANIMALS IS GETTING SMALLER. MANY ANIMALS ARE BEING THREATENED BY EXTINCTION NOW. WE CALL THEM ENDANGERED SPECIES.

WHAT'S THREATENING THEM? A MONSTER?

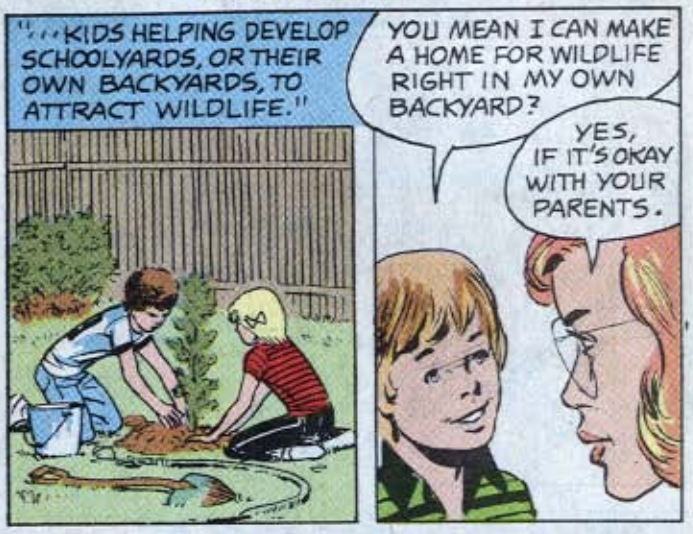
SOMETIMES NATURAL DISASTERS ARE THE MONSTER BECAUSE THEY DESTROY THAT PART OF AN ENVIRONMENT THAT AN ANIMAL NEEDS TO LIVE. IF THERE AREN'T ANIMALS OF THE SAME KIND LIVING IN OTHER ENVIRONMENTS, THAT ANIMAL WILL HAVE DISAPPEARED FROM THE EARTH FOREVER.

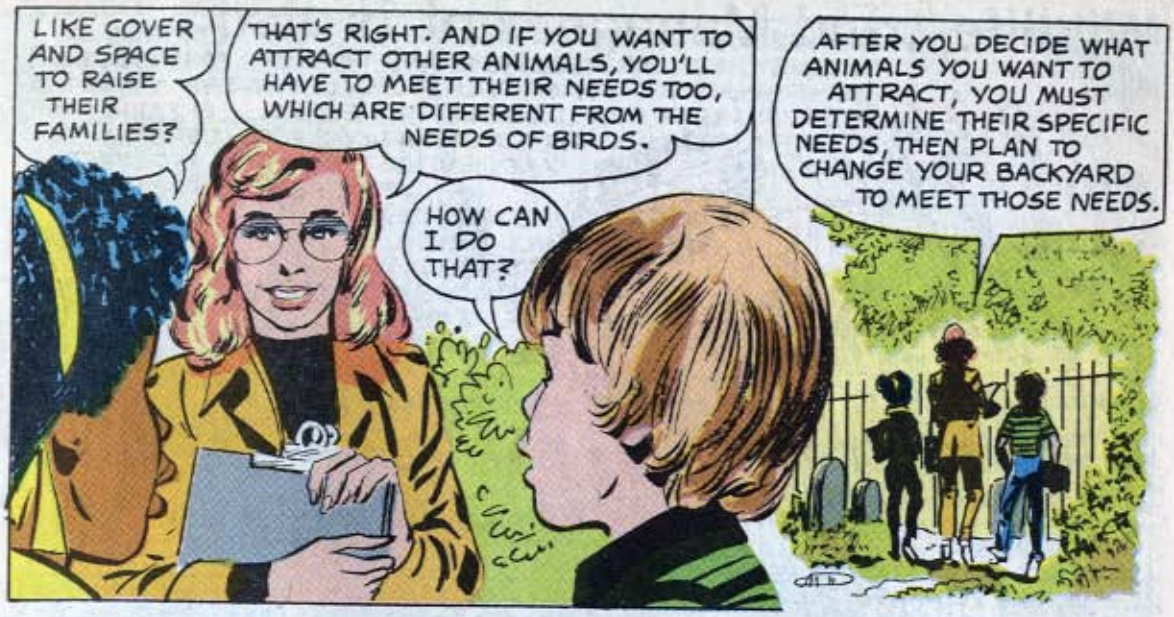
MORE OFTEN THE THREAT IS THE RESULT OF CONFLICT BETWEEN PEOPLE AND ANIMALS. IN DEVELOPING FARMLAND OR BUILDING OUR CITIES, WE OFTEN DESTROY ENVIRONMENTS IMPORTANT TO WILDLIFE. BUT WE CAN DO SOME THINGS TO HELP BOTH PEOPLE AND ANIMALS HAVE WHAT THEY NEED. IT'S CALLED WILDLIFE MANAGEMENT—MAKING A HOME FOR WILD ANIMALS ON THE LAND.

Wildlife/Land Management is...



Wildlife/Land Management is also...




LIKE COVER AND SPACE TO RAISE THEIR FAMILIES?
THAT'S RIGHT. AND IF YOU WANT TO ATTRACT OTHER ANIMALS, YOU'LL HAVE TO MEET THEIR NEEDS TOO, WHICH ARE DIFFERENT FROM THE NEEDS OF BIRDS.
HOW CAN I DO THAT?
AFTER YOU DECIDE WHAT ANIMALS YOU WANT TO ATTRACT, YOU MUST DETERMINE THEIR SPECIFIC NEEDS, THEN PLAN TO CHANGE YOUR BACKYARD TO MEET THOSE NEEDS.

"YOU CAN FIND OUT WHAT KINDS OF FOOD, COVER, AND SO ON EACH ANIMAL NEEDS AT YOUR SCHOOL LIBRARY OR THE CITY LIBRARY."

PEOPLE AT OUR LOCAL CONSERVATION DISTRICT OFFICE OR WITH OUR STATE FISH AND WILDLIFE AGENCY CAN HELP TOO.
I'VE NEVER PLANTED ANYTHING OUTSIDE BEFORE. CAN THOSE PEOPLE HELP ME WITH THAT, TOO?

"YES, AND PEOPLE AT THE TREE NURSERY OR GARDEN CENTER CAN TELL YOU HOW MUCH THE PLANTS WILL COST AND EXPLAIN HOW TO PLANT THEM."

ASK YOUR PARENTS HOW MUCH THEY ARE WILLING TO SPEND, THEN PLAN YOUR WILDLIFE HOME ACCORDINGLY.
THAT ALL SOUNDS LIKE A LOT OF WORK, AND CONFUSING TOO.

MAKING GOOD HOMES FOR WILDLIFE IS NOT EASY AND CANNOT BE DONE OVERNIGHT. ANSWERING THESE FOUR QUESTIONS BEFORE YOU DO ANYTHING ELSE WILL HELP YOU DO A GOOD JOB AND MAKE IT A LITTLE EASIER TOO.

AS THE PLANTS GROW EACH YEAR, WHILE YOU CONTINUE TO ADD MORE, YOU'LL BE ATTRACTING MORE AND MORE WILDLIFE TO YOUR BACKYARD.

THAT'LL BE REALLY NEAT. ANIMALS ALL OVER MY YARD!

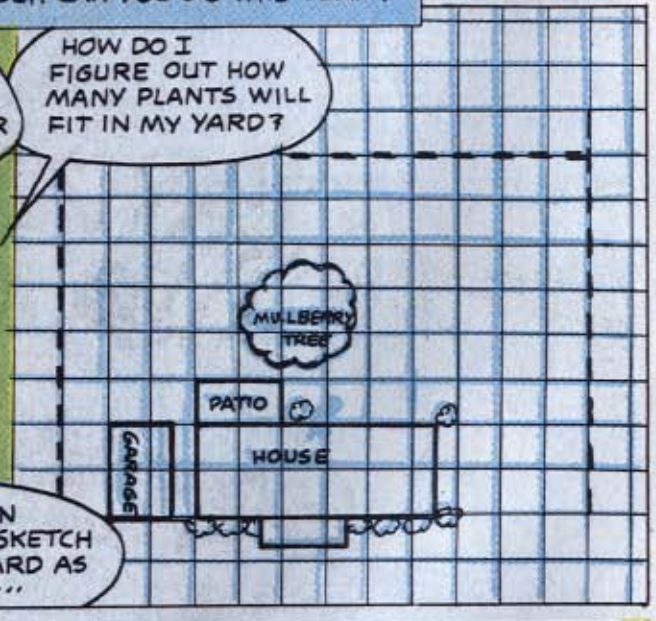
WHOA, MARTY...

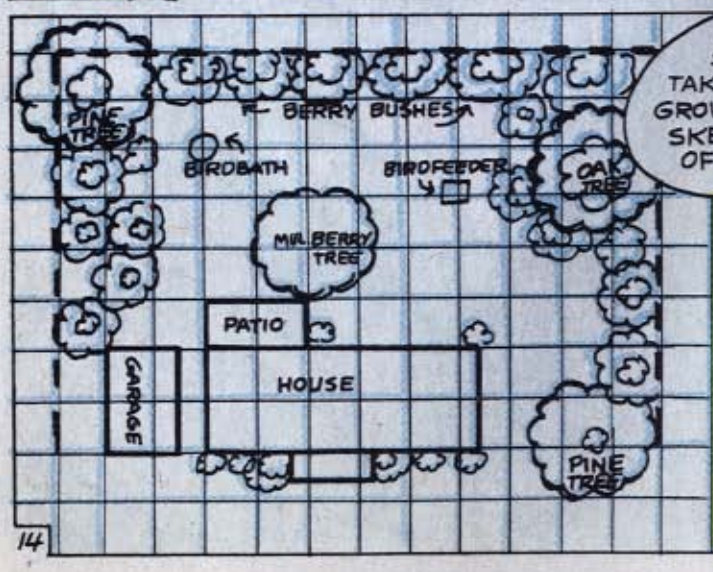
1. WHAT ANIMALS DO YOU WANT TO ATTRACT?
2. WHAT ARE EACH ANIMAL'S SPECIFIC NEEDS?
3. HOW MUCH WILL IT COST TO MEET EACH ANIMAL'S NEEDS?
4. HOW MUCH CAN YOU DO THIS YEAR?

... YOU WON'T ATTRACT EVERY KIND OF ANIMAL YOU MIGHT WANT. YOUR YARD ISN'T BIG ENOUGH TO INCLUDE ALL THE DIFFERENT KINDS AND NUMBERS OF PLANTS NEEDED. AND REMEMBER CARRYING CAPACITY? ONLY A LIMITED NUMBER OF ONE KIND OF ANIMAL CAN LIVE THERE.

HOW DO I FIGURE OUT HOW MANY PLANTS WILL FIT IN MY YARD?

MAKE AN ACCURATE SKETCH OF YOUR YARD AS IT IS TODAY...





...THEN FIND OUT HOW MUCH SPACE YOUR PLANTINGS WILL TAKE UP WHEN THEY ARE FULL GROWN AND INCLUDE THEM IN YOUR SKETCH. THIS WILL GIVE YOU AN IDEA OF THE NUMBERS AND KINDS OF PLANTS THAT WILL FIT.

I WISH I COULD DO SOMETHING AT HOME TO HELP WILDLIFE, BUT I LIVE IN AN APARTMENT HOUSE.
WHY NOT USE A WINDOW BOX, SUSAN. IF YOU PROVIDE FOOD AND WATER, YOU CAN ATTRACT MANY KINDS OF SONGBIRDS.
"POT A TRUMPET VINE OR HANG A SPECIAL FEEDER AND YOU MIGHT EVEN ATTRACT HUMMINGBIRDS."
HEY, A RACCOON MUST HAVE BEEN HERE LAST NIGHT.
LOOK! BIG FOOT!
OKAY, SO I HAVE BIG FEET! DOES THAT MAKE ME A MONSTER?
YOU KNOW, PEOPLE CAN BE MONSTERS. WE CAN MISMANAGE LAND AND HURT WILDLIFE.
OR WE CAN MANAGE LAND TO HELP MAKE ROOM FOR US ALL!
End

THIS BOOKLET WAS PUBLISHED BY THE SOIL CONSERVATION SOCIETY OF AMERICA, 7515 NORTHEAST ANKENY ROAD, ANKENY, IOWA 50021. PRICES AVAILABLE ON REQUEST.